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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,712	10/22/2003	Howard E. Rhodes	M4065.0660/P660	4640

24998 7590 02/08/2007
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EXAMINER

FENTY, JESSE A

ART UNIT	PAPER NUMBER
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2815

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/689,712

Applicant(s)

RHODES ET AL.

Examiner

Jesse A. Fenty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 54-94 is/are pending in the application.
- 4a) Of the above claim(s) 54-77 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-28 and 78-82 is/are allowed.
- 6) ☒ Claim(s) 83-92 and 94 is/are rejected.
- 7) ☒ Claim(s) 93 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-28, 78-82, and 83-94 in the reply filed on 11/01/06 is acknowledged. The traversal is on the ground(s) that the image pixel structure and the pixel imager system are not independent of one another. This is not found persuasive because applicant did not meet his burden of proof to rebut the assertions made by the examiner. Applicant simply noted (pp. 2 of the Response) that the "claimed image pixel structure and claimed pixel imager system are clearly capable of being used together," without any facts or arguments to support that position.

On the other hand, the examiner in the Restriction requirement specifically pointed out the differences between the two inventions and the reasons why one did not depend on the other, as required by the rule. Applicant's blanket statement to the contrary is not persuasive without concrete examples of how examiner's interpretation is erroneous.

Further, applicant cites Section 806 of the MPEP to show that there must be a demonstrated "serious burden" by the examiner to warrant the restriction requirement. Again, examiner points the applicant's attention to the Restriction mailed on 10/04/06. In this action, examiner gave ample reason why the addition of claims now puts the application in the serious burden category. Although new claims 83-94 are similar to claims already presented, the addition of the new claims brings in new details that were

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not previously claimed and adds the burden already extant. This was explained on 10/04/06 and these facts have not been directly addressed by applicant.

In conclusion, simply stating relevant portions of the MPEP without factual correlation, does not satisfy the burden required by the office to overcome the restriction requirement.

Therefore, the requirement is still deemed proper and is therefore made FINAL.

Claims 54-77 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/01/06.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 83-92 and 94 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe (US 20010006237 A1).

In re claims 83-88, Abe (e.g., Fig. 1) discloses an image pixel structure comprising:

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a photosensor formed in a semiconductor substrate (24) of a first conductivity type (P), the photosensor comprising:

a first implant region (26) of a second conductivity type (N);

a second implant region (40) of a second conductivity type (N);

a third implant region (41) of a second conductivity type (N); and

a transistor gate stack (35, 37) located at a surface of the semiconductor substrate adjacent said photosensor.

The limitations regarding “angled implantation,” etc. are product-by-process limitations that are not given patentable weight because they are not written in a way to distinguish the structure of the claimed invention from that of the prior art. In other words, if the claimed invention is manufactured in a different way than the claimed invention, the claims must reflect the different structure that is created as a result of that process. The claim must differentiate what makes the structure of an angled implant region different from the structure of a non-angled implant region.

In essence, however, the implant regions of Abe are “angled implant regions” in that the angles of implant can be considered 90 degrees, or 180 degrees, if the implantation is straight down. So, taken broadly, the claim is anticipated for the non-specific angle portion of the claim. Otherwise, the structure itself must be novel, rather than the method of making.

In re claim 89, Abe discloses the device of claim 83, wherein said photosensor further comprises a fourth implant region (27) located adjacent said second angled implant region.

In re claim 90, Abe discloses the device of claim 89, wherein said fourth implant region is located on a (top) side of the second implant region, at a portion in said substrate nearest said gatestack.

In re claim 91, Abe discloses the device of claim 83, wherein a lower boundary for said first implant region creates an upper boundary for said second implant region, and wherein a lower boundary for said second implant region creates an upper boundary for said third angled implant region.

In re claim 92, Abe discloses the device of claim 91, wherein the third region (41) extends further in a horizontal direction in said substrate than at least one other of said implant regions.

In re claim 94, Abe discloses the device of claim 92, wherein said second and third angled implant regions extend further in a horizontal direction than said first angled implant region extends.

Allowable Subject Matter

Claims 1-28 and 78-82 are allowed.

Claim 93 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Previously un-allowed claim 1 is not allowed because the structure comprising at least a photodiode within a substrate of a first conductivity type, the photodiode

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including an implant region of a second conductivity type, a first portion of said implant region extending further towards a region of said substrate beneath the gate than a second portion of said implant region, wherein the lower boundary of the first portion forms an upper boundary for at least part of the second portion is neither anticipated nor obvious over the prior art of record.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

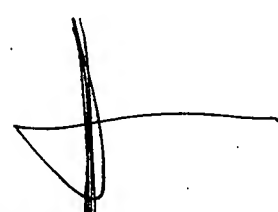
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 571-272-1729. The examiner can normally be reached on M-F 5/4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAF



KENNETH PARKER
SUPERVISORY PATENT EXAMINER